



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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#19

APPLICANT(s): C. Hofmeister

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FILING DATE: 9/30/98

EXAMINER: Underwood, D.

TITLE: SUBSTRATE TRANSPORT APPARATUS

ATTORNEY

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Commissioner of Patents  
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REPLY BRIEF

Sir:

This is in response to Examiner's Answer mailed December 9, 2002  
Paper No. 18.

The disclosure in Fukasawa merely of arm 5 with its shoulder located between chambers 3a, 3b and 4a, 4b, and that chambers 3a, 3b and 4a, 4b appear to have parallel side walls does not anticipate the features recited in claim 5. Claim 5 recites that the initial and final positions of the end effector are connected by an axis of translation which is one of two generally parallel axes of translation of the end effector. As noted before in the Appeal Brief, the mere disclosure of cassettes 3a, 3b, 4a, 4b that appear to have parallel side walls in Fukasawa does not make it necessary that the arm 5 move the wafer between initial and final positions in a straight line,

much less a line which is one of two generally parallel axes of translation. The arm 5 in Fukasawa has three independently pivotable arm links 51, 52, 53 allowing the convey path of the round wafer to be freely selected from within the chambers 3a, 3b, 4a, 4b. It is noted that in a method for transporting a substrate into and out of a holding area, it is not possible for both initial and final positions to be within the same holding area. Accordingly, as the wafer must be transported from the outside into, or from inside out, then according to the disclosure in Fukasawa the convey path of the wafer in Fukasawa is freely selectable. The Examiner states that straight convey paths are common. This is not supported by any reference nor is it relevant here. Merely because straight paths are common does not mean that they are necessary. Fukasawa does not disclose the features recited in claim 5. Moreover claim 5 recites that radial displacement of the end effector complements rotation of the transport arm as a unit to result in the substrate being translated along the axis of translation. Nowhere is this disclosed in Fukasawa.

In regard to claim 8. The Examiner has failed to state any motivation or suggestion arising from Bacchi and Ohta, for one skilled in the art to combine Bacchi and Ohta, or Ohta and Bacchi as suggested by the Examiner. Further, there is nothing disclosed in either Bacchi or Ohta to make it obvious to one skilled in the art to modify Bacchi in view of Ohta or vice versa to provide the features recited in claim 8. Claim 8 calls for three side by side substrate holding areas generally aligned with each other along one side of the drive section. Bacchi discloses but two substrate holding areas 168r, 168l (not three) on one side of the drive section. Ohta discloses a stand-by station 14, and five shelve and loading/unloading stations 20,

21 arranged in a circular array. Thus in Ohta there are a total of six stations, 14, 20, 21 equally distributed around the circular arrangement. Thus, the stations are separated by a 60° angle between them. Hence in Ohta there are also only two stations on one side of the drive section, the third station being on a different side from the side having any two stations. Further, claim 8 calls for three side by side holding areas aligned with each other along one side. Three stations arranged in a circular arc as in Ohta is not the same as three side by side holding areas aligned with each other along one side of the drive section. The disclosure of three stations arranged in a circular arc as in Ohta would not make it obvious to one skilled in the art to array the stations side by side aligned with each other along one side of the drive section as called for in claim 8.

In regards to claim 28, in the Final Action mailed 4/5/02 (Paper No. 16) the Examiner withdrew the rejection of claim 28 under 35 U.S.C. 103 based on Bacchi and Ohta noting that claim 28 should have been rejected on similar grounds as claims 1-4, 26 and 29 (under 35 U.S.C. 103 based on Fukasawa in view of Bacchi or Sawada). Accordingly, the Appellant filed a Supplemental Appeal Brief on August 5, 2002. Further, the Examiner's Answer indicates that it is based on the Supplemental Appeal Brief. Nevertheless, the Examiner's Answer fails to address the Appellant's arguments in claim 28 with respect to the rejection based on Fukasawa, Bacchi and Sawada. Instead, the Examiner has again argued the rejection of claim 28 under 35 U.S.C. 103 based on Bacchi in view of Ohta or Ohta in view of Bacchi. The Appellant notes that this reversal by the Examiner is not proper as it is no longer clear to the Appellant the exact basis for the rejection of claim 28. Nevertheless, if the Examiner wishes

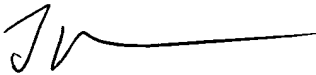
to now argue the unpatentability of claim 28 under 35 U.S.C. 103 in view of Bacchi and Ohta or Ohta and Bacchi, the Appellants incorporate by reference the argument with respect to the patentability of claim 28 provided in Sections VIII (6)(a)-(b) of the Appeal Brief mailed December 5, 2001. Otherwise, the Appellants wish to note that the Examiner has failed to answer the Appellants' argument regarding the patentability of claim 28 over Fukasawa, Bacchi and Sawada as required.

In regards to claim 1, the arm 5 in Fukasawa with three independently driven arm links and the arm in Bacchi with only two independently driven arm links are not equivalent (the convey paths of the arm in Bacchi are not freely selectable as disclosed in Fukasawa). Also, the Examiner may not use the Applicants' disclosure against them. Thus, it is improper for the Examiner in the absence of any other showing to point to the Applicants' disclosure for showing that the arm in Bacchi and Fukasawa are equivalent (and they are not). Further, as noted before, Bacchi discloses one cassette aligned with the shoulder and the other cassette offset. Thus, the Examiner agrees that Bacchi fails to disclose or suggest that the substrate is moved along one of a number of parallel axes straddling the drive section as called for in claim 1.

For all the foregoing reasons, the Board is requested to reverse the Examiner's rejection of claims 1, 5, 8 and 28.

The Commissioner is hereby authorized to charge payment for any fees associated with this communication or credit any over payment to Deposit Account No. 16-1350.

Respectfully submitted,



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2/10/03

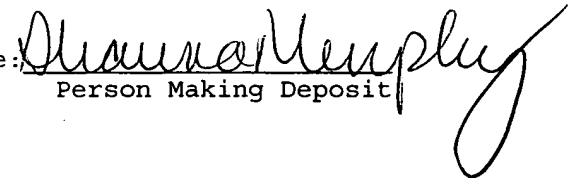
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